

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method of controlling a display device comprising an array of display pixels, each pixel comprising a thin film transistor switching device ~~an~~ and a display element, the array being arranged in rows and columns with each column of pixels sharing a column conductor to which pixel data voltages are provided, the method comprising, for each field period during which data is stored into the array of pixels:

providing a pixel drive signal to each pixel for storage on the pixel for a first period of time, the pixel drive signal comprising a selected one of a plurality of pixel drive levels;

providing a second drive voltage to each pixel for a second period of time, wherein the durations of the first and second periods of time are controlled to vary the pixel light output.

2. (previously presented) A method as claimed in claim 1, wherein the pixel drive signal is provided to each pixel by providing a first row pulse on a row conductor timed with the application of a pixel data voltage on the column conductor.

3. (Original) A method as claimed in claim 2, wherein the second drive voltage is provided to each pixel by providing a second row pulse on a row conductor timed with the application of the second drive voltage on the column conductor.

4. (Original) A method as claimed in claim 3, wherein the durations of the first and second periods of time are controlled by selecting the timing of the second row pulse relatively to the first row pulse.

5. (previously presented) A method as claimed in claim 1, wherein each pixel is addressed with a first polarity in a first group of field periods and with a second opposite polarity in a second group of field periods.

6. (previously presented) A method as claimed in claim 5, wherein the second drive voltage comprises a fixed reference drive voltage, and wherein a first reference drive voltage is provided for pixels driven to the first polarity and a second reference drive voltage is provided for pixels driven to the second polarity.

7. (previously presented) A method as claimed in claim 6, wherein the first reference drive voltage is of equal magnitude and opposite polarity to the second reference drive voltage.

8. (previously presented) A method as claimed in claim 1, wherein the durations of the first

and second periods of time are together substantially equal to the field period.

9. (previously presented) A method as claimed in claim 1, wherein the method further comprises providing zero volts to each pixel for a third period of time.

10. (previously presented) A method as claimed in claim 9, wherein the durations of the first, second and third periods of time are together substantially equal to the field period.

11. (previously presented) A method as claimed in claim 9, wherein providing zero volts to each pixel comprises resetting the pixel by discharging a pixel storage capacitor.

12. (previously presented) A method as claimed in claim 9, wherein the method comprises controlling the durations of the first, second and third periods of time to vary the pixel light output.

13. (previously presented) A method as claimed in claim 1, wherein each pixel comprises a pixel storage capacitor, and wherein the step of providing a pixel drive signal to each pixel for storage on the pixel for a first period of time comprises applying a pixel data voltage to the column and forming the pixel drive signal by capacitive coupling using the pixel storage capacitor.

14. (previously presented) A method as claimed in claim 1, wherein each pixel comprises a pixel storage capacitor, and wherein the step of providing a second drive voltage to each pixel for a second period of time comprises modifying the pixel drive signal to form the second drive voltage by capacitive coupling using the pixel storage capacitor.

15. (previously presented) A method as claimed in claim 14, wherein the step of modifying the pixel drive signal by capacitive coupling comprises applying a voltage waveform (Capacitor) to one terminal of the pixel capacitors for each row of pixels.

16. (previously presented) A method as claimed in claim 15, wherein the voltage waveform (Capacitor) has two levels, and the timing of the transitions between the two levels determines the durations of the first and second periods of time.

17. (previously presented) A method as claimed in claim 15, wherein the voltage waveform (Capacitor) has three levels, and the timing of the transitions between the three levels determines the durations of the first and second periods of time.

18. (previously presented) A method as claimed in claim 14, wherein each pixel is addressed with a first polarity in a first group of field periods and with a second opposite polarity in a second group of field periods.

19. (previously presented) A method as claimed in claim 1, wherein the plurality of pixel drive levels correspond to a 4, 6, 8 or 10 bit pixel drive signal.

20. (previously presented) A method as claimed in claim 1, wherein the second period of time can be varied between a duration of 0 and at least 0.5 times the field period.

21. (currently amended) A method as claimed in claim 1, wherein the display pixels
comprises twisted nematic liquid crystal display pixels.

22. (previously presented) A method as claimed in Claim 1, wherein the second drive voltage corresponds to a drive level for the pixel which is between the brightest and darkest pixel drive levels.

23. (previously presented)¹ A display device comprising
an array of display pixels, each pixel comprising a thin film transistor switching device and a display element, the array being arranged in rows and columns with each column of pixels sharing a column conductor to which pixel drive signals are provided,

¹ Applicant has inserted paragraph structure into the claim for clarity. This is not believed to be a true amendment of the language and is not believed to affect the scope of the claim, so the claim is not indicated to be amended.

wherein the device comprises column driver circuitry for generating analogue pixel drive signals,

the column driver circuitry further comprising means for generating at least one reference drive voltage, and

wherein the device further comprises timing means for controlling the duration of application of pixel drive signals and of the reference drive voltage to the display pixels.

24. (currently amended) A device as claimed in claim 23, wherein the column driver circuitry ~~comprising~~ comprises means for generating two reference drive voltages of equal magnitude and opposite polarity.

25. (new) The device of claim 23, wherein the timing means varies the duration of at least one pixel drive signal within a field in order to achieve a desired rms and/or mean voltage of the pixel drive signal within that field, whereby an amount of light output by the corresponding pixel is varied responsive to variations in duration of the pixel drive signal.

26. (new) Apparatus comprising:

a first plurality of parallel conductors;

a second plurality of parallel conductors, perpendicular to the first plurality of conductors,

a plurality of display pixels arranged at intersections of the first and second conductors;

drive control circuitry adapted to supply signals on the conductors, the signals coordinating to produce at least one drive voltage across at least one selected display pixel;

the signals along at least one of the first plurality of conductors comprising, for at least one field, a signal having a plurality of preset voltage values; each voltage value having a respective duration; the durations being responsive to at least one parameter to achieve a respective desired rms and/or mean voltage per field for the signal along the at least one of the first plurality of conductors;

the signals along at least one of the second plurality of conductors comprising, for the at least one field, at least one selection pulse; and

the drive control circuitry altering the parameter responsive to a desired contrast output of the selected display pixel; whereby rms and/or mean voltage are altered along the at least one of the first plurality of conductors without necessity of altering the preset values.

27. (new) The apparatus of claim 26 wherein the drive control circuitry alters the parameter responsive to temperature.